

TREATMENT OF ACUTE ATOPIC ECZEMA BY CHIROPRACTIC CARE

A Case Study

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ABSTRACT:

Objective: To investigate a patient with atopic eczema and assess how they responded to chiropractic care.

Method: The study was run over a 7 week period with chiropractic treatments (diversified technique) on a once weekly schedule.

Outcome Measures: To measure the effect of treatment, a rating system was developed and the intensity of a range of symptoms was recorded (through a questionnaire) on a twice weekly basis.

Results: The results attained showed there was a marked improvement in the eczema symptoms following the chiropractic care. The patient reported an improvement in eczematous symptoms of excoriation, pruritus, oedema and general psychological ease. These findings were also confirmed by photographic evidence which documented the change in the lesions.

Discussion: The case is presented to assist practitioners making a more informed decision on the treatment of choice for eczema. The outcome of this case is also discussed in relation to recent research that concludes that chiropractic spinal manipulative therapy has a role in the treatment for some people with non-neuromusculoskeletal conditions.

Conclusion: It appears that chiropractic care may have assisted this patient with eczema. However, more research is required to investigate the role that chiropractic has in the treatment of patients with eczema, and the potential mechanisms that could explain the improvement.

MeSH: Eczema; dermatitis, atopic; chiropractic; case report.

INTRODUCTION

Skin disease patients may have special needs due to the effect that their condition has on their lives. By their very nature, skin conditions are visible and conjure up ideas of

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disease, dirt and neglect, which to a lay person's mind may be perceived as nasty, dirty and infectious. Atopic eczema is a miserable condition which can have a major impact on the lives of not only patients but also their families. The term eczema is derived from the Greek ekzein, meaning to boil over (1). Atopic eczema is an inflammatory skin disease with the main focus of inflammatory change located in the epidermis. In the acute stage, oedema in the epidermis (spongiosis) encourages the formation of intra-epidermal vesicles. These vesicles may progress further to form larger blisters that may rupture to form the typical eczematous lesions. At the chronic stage of the condition there is less spongiosis and vesication, but a greater degree of thickening of the prickle cell and horny layer (2).

One of the most typical features of acute atopic eczema is pain in the form of itching which then leads to scratching, known as the 'itch-scratch cycle' (3). The scratching leads to excoriation of the skin and general patches of redness and inflammation. Due to the remarkably high prevalence of cases, there is a wealth of research on the topic. Unfortunately, all that the research has shown is that there are a multitude of factors which contribute, predispose or irritate the condition.

Atopic eczema is a common disease, affecting 5-10% of school children and 2-10% of adults. Such patients account for 10-20% of all referrals to dermatologists and about 30% of dermatological consultations in general practice (4).

Atopic hypersensitivity is a complex disorder with different clinical expressions (asthma, rhinitis and hayfever, and eczema) that share as a common phenotype excessive synthesis of immunoglobulin E (IgE). Several studies point to a region at chromosome 5q containing genes coding for interleukins and other growth factors (5). It appears that this gene is linked with the regulation of IgE production (5, 6). The inheritance of this variant is maternally dominant. Such inheritance can be explained by either paternal imprinting, or by maternal modification, through the placenta or breast milk, of developing immune responses (5).

Breastfeeding, or more specifically long term (up to 1 year) breastfeeding, has been strongly supported as a factor in the prevention of atopy (7). Breastfeeding seems to confer long term protection against allergic sensitisation. A 20-year British follow-up study suggested that the long term prognosis of children with asthma was significantly better in children breastfed for two months or longer as

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compared to those who received breast milk for one week or less (7). The exact mechanisms are poorly understood, but a two fold mechanism has been suggested. First, human milk may induce and promote the natural maturation of the intestinal mucosal barrier and the secretory immune system. Second, human milk may passively reduce exposure to food antigens through inhibiting their absorption, local protection of the immature mucosa being afforded by secretory IgA and other immunoglobulins in human milk (5, 7). It appears that long term breastfeeding (at least 6 months for eczema) is a prophylactic against atopic disease, the effect extending into adulthood (7, 8).

Asthma and eczema are considered in some medical circles to be the same disorder. However, they are differentially localised, with asthma occurring in the lungs and eczema in the epidermis (9). It is interesting therefore to investigate the correlations between asthma and eczema for prevalence, causes and response to transplantation. Asthma appears to have a very similar prevalence and cause, IgE and breastfeeding appear to be important. Transplantation of asthmatic lungs into a non-asthmatic patient predisposes the patient to the development of asthma, and conversely, the transplantation of non-asthmatic lungs into an asthma sufferer renders the patient asthma-free (9). This correlates with eczema. An area of eczematous skin that is replaced with non-eczematous skin does not exhibit eczema, and vice-versa (10). These findings support the notion of asthma and eczema being localised and therefore genetic disorders.

Exacerbating factors are many and varied for eczema. It has been shown that domestic water hardness and dust mites have a marked effect on the disorder. There are two mechanisms by which water hardness may affect eczema. Primarily, the increased calcium and magnesium may act as a direct chemical irritant, or secondly, the indirect requirement of more soap and shampoo required for lather in hard water may irritate the condition (11). Dust mites on the other hand have been shown to have a directly irritating impact on eczema (12). These factors have only been shown to irritate an already present condition, but not if or by how much they contribute to the initial emergence of the disorder.

The aim of this case study was to see if chiropractic care had any influence on acute atopic eczema.

CASE FEATURES

The patient was a 21 year old female of Asian heritage. She displayed typical acute atopic eczematous symptoms which had been suffered for the last 2 years. The onset of the condition was rapid, and there had been only one prior occurrence at the age of 14, localised in the axilla for a duration of 1 week. She was never breastfed and was fed formula as a baby, she was a late 'bed-wetting' maturer (approximately 7 years old) and a fairly inactive patient.

Inflammatory eczema was present on her whole body with exception of the face, breasts and the thick skin of the hands and feet. The worst areas of the inflammatory eczema were concentrated around the pelvis and the back of her thighs. Weeping eczematous lesions were more prominent on the arms and thighs but they did not appear to be related to high concentration areas of inflammatory eczema. The patient suffered from infrequent, mild asthma symptoms and hayfever which had developed after the onset of her eczema.

The patient had been on the contraceptive pill (logynon) for 2 and a half years and for 2 years had used 'aristocort', a topical corticosteroid. She was a non-smoker and non-drinker, and her only hospitalisation had been for wisdom teeth extraction. There was no family history of eczema or asthma.

Orthopaedic examination revealed some reduction in gross range of motion of the thoracic spine. Chiropractic examination revealed a T5 flexion restriction with associated posterior ribs 5 and 6 on the right side, and local muscle spasm. The patient's condition was assumed to be predisposed by the repetitive strain of prolonged standing and lifting associated with working as a shop assistant.

TREATMENT

To effectively evaluate the patient's eczema, an effective system had to be devised to quantitatively show the relative level of the disorder and thus any changes observed. To do this the system was based on the Leicester system, but greatly modified (4). The rating system was arranged in 5 categories (3 objective, 2 subjective). The sliding-scale was organised so that a rating of 1 meant no eczematous symptoms and the most extreme was 10. The first 2 categories, excoriation and oedema were recorded by the examiner with data only collated from affected skin (as in the Leicester system) to enhance the recording of changes. In the form of a questionnaire the patient had to answer 3 questions:

1. How itchy is the eczema? - to measure the pruritus
2. How do you feel?
3. Do you feel ugly?

The last 2 questions test the general psychological ease of the patient and evaluate the patient's feelings of self worth. Skin conditions may make people feel dirty, inferior, ugly and generally unpleasant and these questions attempt, to a small degree, to evaluate this aspect of the condition.

The sliding scale (Figure 1) was arranged so that a rating of 1 meant 'No', and a rating of 10 meant 'Yes' (4). The final category (Figure 2) was an average of the first 4 categories to give a display of the general status of the disorder.

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Recordings of symptoms were performed on a Monday and Thursday night for the duration of the study. The physical recordings were performed immediately after the patient showered as the hot water would make the inflamed patches more visible. The psychological recordings were done immediately before the shower when we considered that she was most likely to be unhappy, itchy and feeling depressed.

There were 7 chiropractic treatment sessions. The first 4 treatments were concentrated on the thoracic spine as that was the major area of mechanical dysfunction identified on the 1st visit. The treatments consisted of sitting flexion wing lifts for T5, right rib rolls for ribs 4, 5 and 6 and soft tissue therapy to the rhomboids and paraspinal musculature. During the 4th session biomechanical analysis indicated the presence of a sacroiliac joint dysfunction which was treated concurrently with the thoracic dysfunctions.

RESULTS

As observed from figure 1 and 2 favourable results were observed over the duration of the study. With the advent

of chiropractic care, there was a marked improvement, especially in pruritus. With the change of treatment after 3 sessions, the improvement was more pronounced. By the completion of treatment after 6 treatment sessions, the intensity of symptoms were uniformly low. After chiropractic treatment was discontinued, the eczematous symptoms were seen to be worsening.

It is observable from photographic evidence (see editor's note) that there is an improvement in the presenting symptoms of the disorder. It must be remarked that no new lesions appeared, but also that there was no disappearance of old lesions. This suggests that the chiropractic care possibly reduced the intensity of the disorder but did not 'cure' it.

DISCUSSION

The treatment of eczema is problematic as the causes are still relatively unknown. The most common treatment is the use of corticosteroids which can be taken orally, topically or by intramuscular injection (2). However, there are known complications of topical steroids such as

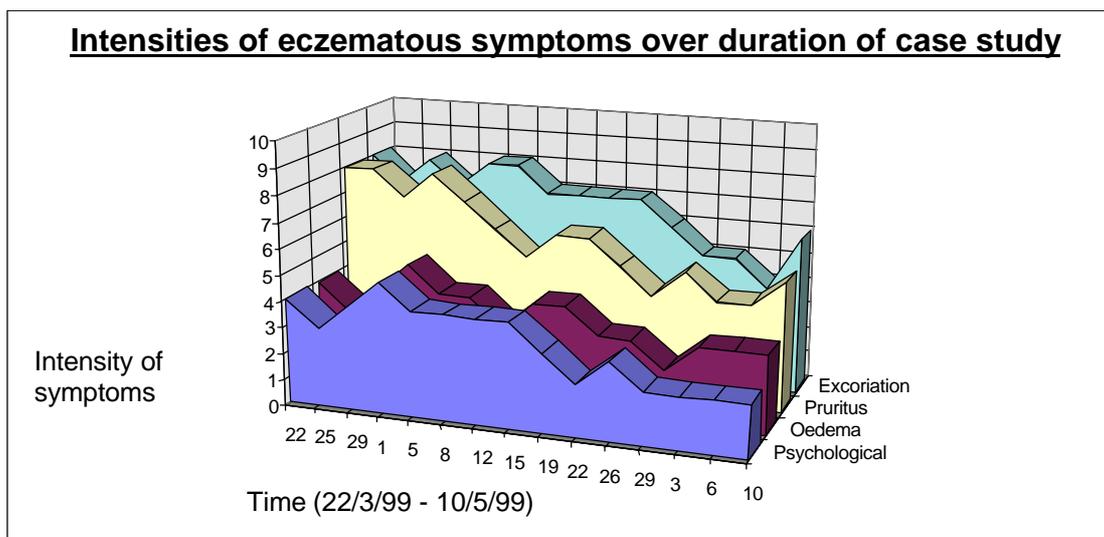


Figure 1: The four categories of eczematous symptoms (Excoriation, Pruritus, Oedema and General Psychological Ease) are displayed to show the trend of symptoms over the duration of the study.

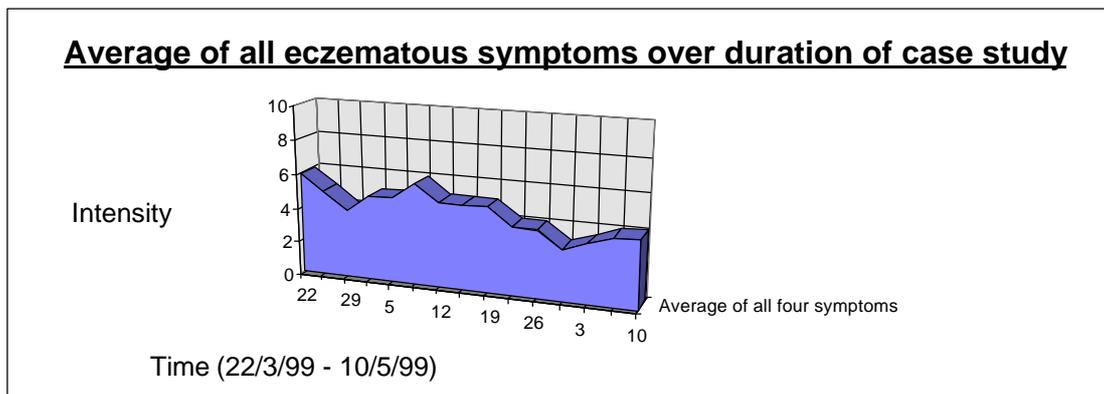


Figure 2: The average of all 4 categories of recording are presented to allow a clearer understanding of the overall status of the disorder.

thinning of the skin and striae (1), and thus it is important to not overuse such treatments. Untreated eczema can damage and scar the skin and make life very miserable (2). The eczematous lesions can become infected and it is often staphylococcus aureus, a multi-drug resistant bacteria, which causes the infection (1). Viral infection by herpes simplex, called eczema herpeticum, is less common but is a serious condition if severe, often requiring hospitalisation. Antihistamines are often administered because their sedative properties may assist the patient to sleep and they also reduce the inflammation and itching (13).

Evening primrose oil (EPO) has been shown to be an effective treatment for the early stages of eczema, before the application of topical steroids. The explanation for its effectiveness is that it eases the itch and therefore the itch-scratch cycle, effectively stopping exacerbation of symptoms due to scratching. In eczema there is evidence that the conversion of dietary linoleic acid to gamolenic acid (GLA) is impaired, leading to deficits of dihomogammalinolenic acid (DGLA) and arachidonic acid (AA) which are required for normal skin structure and function. This concept received support from an article stating that at birth, those children who later developed eczema have raised levels of linoleic acid and severely reduced levels of DGLA and AA. EPO provides GLA for the management of eczema and is therefore a rational and safe treatment since all it is doing is reversing a demonstrable biochemical deficit (14).

Chinese medicines have also shown favourable results for the management of eczema (15). The medicines contain a pot pourri of chemicals, which are the expression of the major biosynthetic pathways in plants (16). The root of the paeonia plant has analgesic and anti-inflammatory properties. Glycyrrhiza uralensis is a common component of traditional Chinese formulations and contains glycyrrhetic acid, which also has anti-inflammatory properties, and it has been shown to potentiate the effect of topically applied hydrocortisone (17). Chinese medicines have been shown to be effective for the milder cases of eczema, but they are still only a means of managing the disorder and not a cure and the benefits are therefore only temporary (16).

The treatment used when the eczema does not respond to other management is that of the wet wrap. It is a technique that increases the absorption of moisturisers and topical steroids, cools the skin and provides a physical barrier to effectively stop scratching of itchy lesions. It is the last resort treatment as it is very messy, time consuming, awkward for the patient and can only be used on the limbs. Wet wrap technique consists of emollient soaked bandages being wrapped around the affected areas of the eczema patient's limbs. They are effective at managing the condition but for obvious reasons they are used as a last resort treatment (19).

In this case report chiropractic care is suggested to have a positive result on the eczematous condition. The mechanism through which chiropractic care could have an effect is unknown. It is probable that there was a high level of subject bias, there was no control patients, and the assessment period was short. However, there did appear to be greater improvement in the condition with the addition of sacroiliac joint treatment. This could indicate that the sacral region has an effect on eczema and further studies could investigate this anecdotal finding.

Several studies have assessed the effects of manipulation on 'Type O' conditions (19 - 36). These studies have demonstrated improvements in conditions such as asthma, hypertension, dysmenorrhoea, and migraines. However, the evidence is limited and no strong conclusions can be stated.

The improvements observed in this patient could be through explanations other than the chiropractic care. For example, changes may have occurred through climactic shifts, psychological factors, hormonal cycles, dietary alteration, etc. However, it should be noted that this case study was a patient with a chronic history of eczema and therefore the symptomatic improvement gained following chiropractic care was possibly independent of the other factors.

Some in the chiropractic profession suggest that only spinal problems should be considered and not 'Type O' conditions. This issue is still contentious and should be revisited given that there was a marked improvement in the eczematous symptoms in this 'Type O' case.

It is rare that a chiropractor will make the primary diagnosis of eczema but it is important for chiropractors to recognise the condition due to its prevalence. Patients will be unaware that chiropractic care could have any effect on their eczema so they will probably not present with eczema as their complaint. Due to the nature of this condition physicians should recognise eczema on patients and record it's progress to determine whether they also had such improvements.

CONCLUSION

This study comprised 7 chiropractic treatment sessions. The first 4 treatments were concentrated on the thoracic spine as that was the major area of dysfunction found on the 1st visit. After further testing, a right sacroiliac dysfunction was also found and a new care plan was instigated. Favourable results were observed over the duration of the study. With the advent of chiropractic care, there was a marked improvement in this patient's condition, especially the pruritus. With the change of treatment, the improvement was more pronounced. The patient has decided to continue chiropractic care due to the apparent favourable results.

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It cannot be conclusively stated that chiropractic care improved the eczema. However, other case studies may come to light which would allow further analysis of potential mechanisms that could explain the improvement gained from chiropractic care.

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